U.S. Department of Energy

Tomorrow's Energy Today

for Cities and Counties

Financing Local Energy Efficiency Projects

Wondering how you can afford the energy-related projects that could save your government money? Here are some tips on getting energy efficiency projects financed for your constituency.

Local governments today, no matter what their size, abundance of resources, or location, are experiencing demands for services beyond their shrinking budgets. The immediate and long-term benefits of energy-related projects can get lost in the shuffle of demands for other services. The substantial budgetary relief (cost savings) that local governments can achieve by implementing energy-saving measures is often difficult to discern because energy costs are not usually a discrete budget item. Aggregation of total energy costs helps cities and counties identify a major savings opportunity. As a result, all across the nation, cities and counties have found ways, customized with a local twist, to deal with the budget crunch.

Here are several different financial techniques—without a lot of risk—that are working in various regions. Some are conventional tools, such as matching grants and revolving loan funds, modified to work for energy projects; others, such as performance contracts, are rather innovative. Your municipality or county might be able to use the techniques presented here or adapt them to local needs.

Even historical monuments can achieve energy savings, according to Ron Mutter, Director of Public Works, Redlands, California. The Redlands City Hall, 50 years old, is one of several buildings retrofitted under a performance contract with Honeywell, Inc.

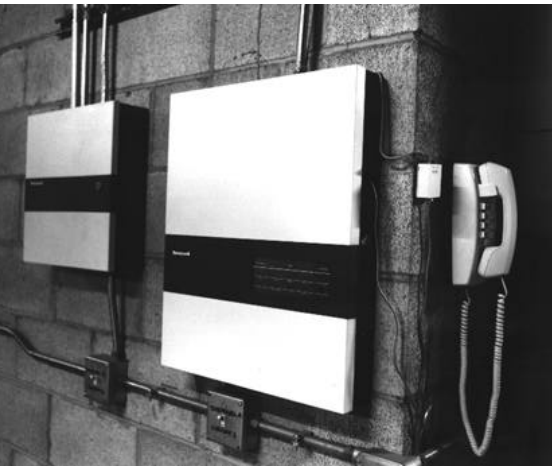
Warren Gretz, NREL

Performance Contracting

It sounds too good to be true. A local government can increase energy efficiency without making any initial capital investment. A city or county can decrease energy costs and simultaneously reserve available capital for other projects.

"The city's energy use is about half what it was 2 years ago."

—Ron Mutter
Director of Public Works
City of Redlands



Warren Gretz, NREL

A key aspect to the program is Honeywell's service-net monitoring system. Company staff members in Atlanta monitor operations in Redlands' key buildings for system failures or high temperatures. Honeywell responds within an hour when a situation needs correcting.

This is called performance contracting, and it's a growing trend because it's a win-win situation. Everyone comes out ahead—business, government, and the taxpayer. Under such an agreement, a third party provides a city or county with a service package that typically includes the financing, installation, and maintenance of energy-saving capital improvements. The customer uses resulting energy savings to pay for the improvements. Performance contracts are often structured as a lease, but with a guarantee that payments will not exceed energy savings. This minimizes financial risk.

According to Ron Mutter, Director of Public Works for Redlands, California, that's exactly the type of arrangement that has worked for the city of Redlands. Honeywell, Inc., approached a city council member about replacing and updating the city's heating, ventilating, and air-conditioning (HVAC) equipment, wastewater pumps, lighting systems, irrigation systems, and sensors. When everything's completed, improvements will have been made to 12 buildings and various park irrigation systems.

Says Mutter, "This is an old city, about 105 years old, with very old buildings. City Hall is 50 years old, the Fire Department building is 60 to 70 years old, and the police building is more than 30 years old. Many of our public buildings still had the original mechanical units in them! The equipment needed replacing anyway, so we were very interested in the idea. Especially because it wouldn't cost us anything. The city council concurred."

In March of 1992, the city and Honeywell signed an agreement projected to save the city at least $462,683 in energy and $143,455 in labor and maintenance costs for the first year of operation. The equipment replacement project is financed with a municipal lease and a maintenance contract; costs are covered by the energy savings and a Honeywell guarantee. "We expect to exceed our first-year program savings projection," says John Buckingham, Home and Building Controls Group, Honeywell, Inc.

The city is already saving substantial amounts of money. "The city's energy use is about half what it was 2 years ago," says Mutter. In utility rebates alone, Redlands has received more than $100,000 from Southern California Edison. "The wastewater treatment plant will be able to increase throughput without increased energy costs, while saving more than $20,000 a year," Buckingham says.

For financing, a 7-year lease was structured; once it expires, savings will revert to either a city general fund or a utility fund. "There were no risks, because Honeywell guaranteed that there would be no risk," Mutter explains. "Honeywell pays the difference if energy savings are not enough to cover the costs of the upgrades. We're very pleased."

Although Honeywell guarantees the city that its savings will at least meet the sum of its lease payments and maintenance payments, the company anticipates that savings will exceed payments. If savings do exceed payments, the city keeps the extra money.

Julie Prather

A walk-through energy audit of the Valley Cafe, performed as part of Project Rebound, revealed numerous measures that could save owner Greg Beach energy and dollars. Project Rebound was a successful local government program to encourage energy efficiency measures in Ellensburg, Washington.

"The customers were very pleased with the outcomes."

—Gary Nystedt
Energy Analyst
City of Ellensburg

Matching Grants and Low-Interest Loans

Another option for financing energy efficiency projects is grants and loans. One local government program that combined grants and loans (in a revolving fund) was Project Rebound in Ellensburg, Washington. Rebound, a pilot project created by the Washington State Energy Office (WSEO) in 1988, studied how implementing energy conservation measures in a selected community fosters economic development.

Using oil overcharge funds, WSEO acted as the lead agency to help the city obtain additional conservation funding from other state, federal, and utility programs. Key goals were to reduce energy demand and stimulate local economic activity. WSEO's grant to the city was $322,000. Ellensburg's combined gas and electric utility matched that amount for a total of $644,000. WSEO's portion of the funding covered project and administrative costs and rebates.

According to Gary Nystedt, Energy Analyst for Ellensburg, several financing options were available. Any business that was interested could apply for either a 50/50 grant or a zero-interest loan. "For a standard matching funds grant, the applicant could receive up to $5,000 or 1 year's worth of utility bills. Standard projects were selected from a pre-approved list the city had compiled. The project had to have a simple payback of 20 years or less."

The list of pre-approved projects included roof, wall, and floor insulation; high-efficiency lighting fixtures, systems, and controls; economizer controls for air conditioning; high-efficiency furnaces and air-conditioning systems; automatic setback thermostats; insulation of hot water pipes; and heat recovery for HVAC systems.

Limiting rebates to 1 year's utility bills or $5,000 was essential, Nystedt says, because "we didn't want to spend a lot of money retrofitting small businesses that used only a little energy." For large projects that would exceed the $5,000 limit, businesses could receive special authorization from the city council for funds up to $25,000 for projects with a payback of 10 years or less.

Zero-interest loans were also available. For standard projects on the city's pre-approved list, applicants could borrow up to $20,000; repayment was based on the project's payback. For special projects, the loan limit was $40,000. In addition, a 5%, one-time loan fee, not to exceed $1,000, was charged.

Financing was also categorized by whether an applicant intended to retrofit a building or install equipment in a new building. "If an applicant was building a new facility, we would pay the full, incremental cost of the more expensive energy-efficient equipment over that of the less expensive standard equipment," Nystedt explains.

For example, if an applicant's new construction project involved installing a new, 90%-efficient furnace at a cost of $3,000, when the standard $2,500 furnace that would normally be installed was only 80% efficient, Project Rebound would pay the cost difference, or $500. "When incremental costs were paid, the owner's total cost did not change," Nystedt explains.

For a retrofit, Project Rebound paid 50%. For example, if an old 60%-efficient furnace were replaced with a 90%-efficient furnace that cost $3,000, the applicant received $1,500.

"Our challenge with Project Rebound was to make it work on small projects in a small community of 14,000," Nystedt says. "Because most of our projects were just a few thousand dollars, we had to look not only at the project's cost and energy savings, but the administrative costs of running the program. The city doesn't spend $2,000 to save $50. You have to turn a project over quickly without a lot of administrative time." Local governments and utilities are the logical entities to take on such projects, because traditional financial institutions typically don't take on small projects.

And Project Rebound has demonstrated that it can save energy. Projected annual energy savings from Rebound were 5651 million Btu, valued at $52,694 (1992 dollars). And, according to Nystedt, "The customers were very pleased with the outcomes."

"Part of the program's success was due to the free energy audit the city offered. Often, businesses didn't really know what to do, nor did they have time to go out and get bids. We spent a lot of time educating local businesses both in how they use energy in their HVAC and lighting systems and in what technologies are available to them. They didn't know what kinds of products are out there for them."

As for risk, the city experienced no complications. "We used a signed agreement with disclaimers, so that if something went bad, owners were liable," Nystedt explains.

According to Mike Grady, Senior Planner, Washington State Department of Community Trade and Economic Development, "Project Rebound was a creative project. State money was used to kick it off, but the state's responsibility ended after 3 years. Typically, after the allocated federal or state money is gone, programs like this die. Project Rebound was sustainable because of its revolving loan fund and commitment by local business and government leaders."

And that kind of commitment is essential, given the competing demands confronting cities and counties. No one needs to be convinced of the desirability of energy efficiency—everyone agrees it makes sense. But in today's economy, the question facing cities and counties is how to go about financing energy efficiency projects. The ideas presented here have proven successful and can work for your local government, too. ■

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